

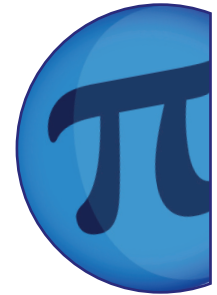


Cumulative Frequency: You're Fired?

NAME:

CLASS:

DATE:



Basic

1) A shop owner wanted to find out the length of time cars were left in the shop's car park. The results, to the nearest minute, are given in the table below.

a) Complete the cumulative frequency column of the table below.

| Length of stay (minutes) | Number of cars (frequency) | Cumulative frequency |
|--------------------------|----------------------------|----------------------|
| $0 < t \leq 15$ | 5 | |
| $15 < t \leq 30$ | 15 | |
| $30 < t \leq 45$ | 28 | |
| $45 < t \leq 60$ | 42 | |
| $60 < t \leq 75$ | 60 | |
| $75 < t \leq 90$ | 22 | |
| $90 < t \leq 105$ | 11 | |
| $105 < t \leq 120$ | 7 | |
| $120 < t \leq 135$ | 10 | |

b) Draw a cumulative frequency diagram for the data.

c) Use your graph to estimate the median length of stay in the car park.

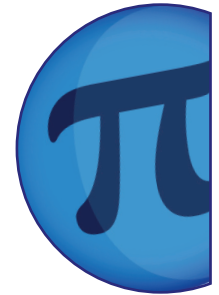


Cumulative Frequency: You're Fired?

NAME:

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Core

1) A shop owner wanted to find out the length of time cars were left in the shop's car park. The results, to the nearest minute, are given in the table below.

a) Complete the cumulative frequency column of the table below.

| Length of stay (minutes) | Number of cars (frequency) | Cumulative frequency |
|--------------------------|----------------------------|----------------------|
| $0 < t \leq 15$ | 5 | |
| $15 < t \leq 30$ | 15 | |
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| $60 < t \leq 75$ | 60 | |
| $75 < t \leq 90$ | 22 | |
| $90 < t \leq 105$ | 11 | |
| $105 < t \leq 120$ | 7 | |
| $120 < t \leq 135$ | 10 | |

b) Draw a cumulative frequency diagram for the data.

c) Use your graph to estimate the median length of stay in the car park.

d) Use your graph to estimate the interquartile range.

e) Cars are liable for a parking ticket if they stay longer than 90 minutes in the car park. Estimate the percentage of cars that could have received a parking ticket.

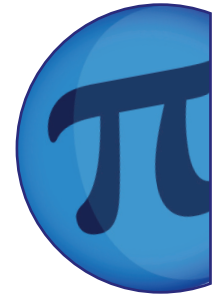


Cumulative Frequency: You're Fired?

NAME:

CLASS:

DATE:



Advanced

1) A shop owner wanted to find out the length of time cars were left in the shop's car park. The results, to the nearest minute, are given in the table below.

a) Complete the cumulative frequency column of the table below.

| Length of stay (minutes) | Number of cars (frequency) | Cumulative frequency |
|--------------------------|----------------------------|----------------------|
| $0 < t \leq 15$ | 5 | |
| $15 < t \leq 30$ | 15 | |
| $30 < t \leq 45$ | 28 | |
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| $60 < t \leq 75$ | 60 | |
| $75 < t \leq 90$ | 22 | |
| $90 < t \leq 105$ | 11 | |
| $105 < t \leq 120$ | 7 | |
| $120 < t \leq 135$ | 10 | |

b) Draw a cumulative frequency diagram for the data.



Cumulative Frequency: You're Fired?

Advanced

- 1) c) Use your graph to estimate the median length of stay in the car park.
- d) Use your graph to estimate the interquartile range.
- e) Cars are liable for a parking ticket if they stay longer than 90 minutes in the car park. Estimate the percentage of cars that could have received a parking ticket.
- f) Draw a box and whisker plot from the cumulative frequency curve.



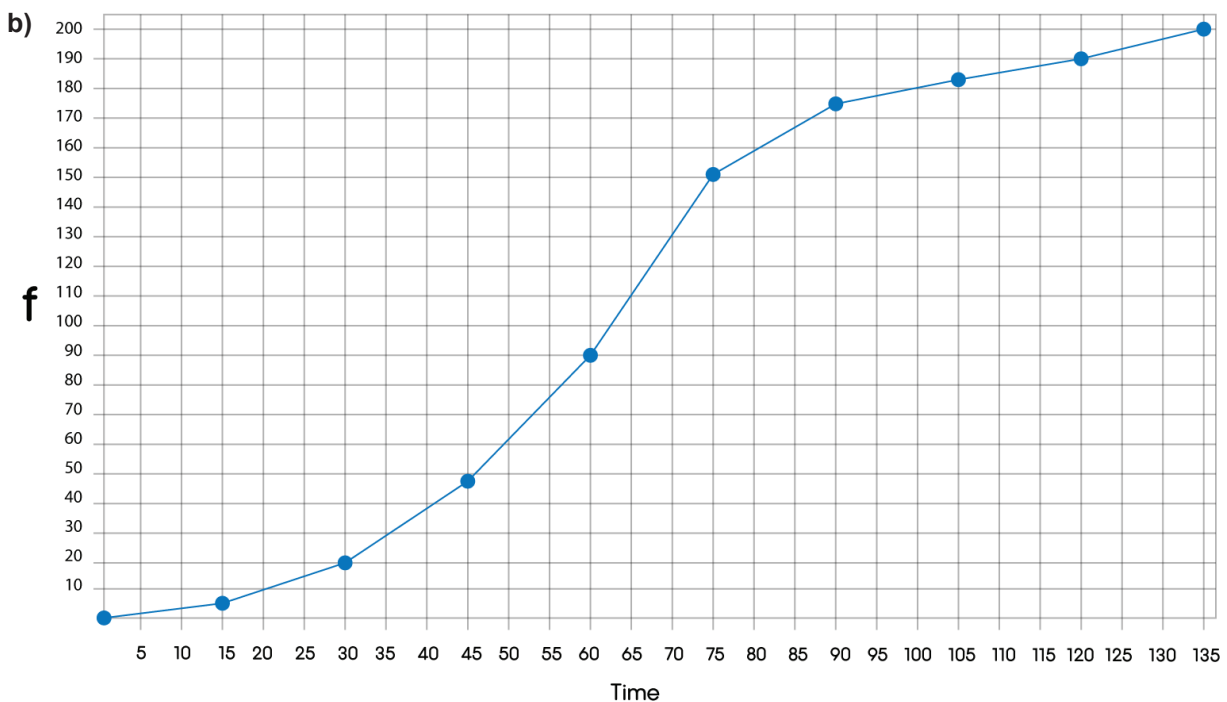
Cumulative Frequency: You're Fired?

ANSWERS

Basic

1) a)

| Length of stay (minutes) | Number of cars (frequency) | Cumulative frequency |
|--------------------------|----------------------------|----------------------|
| $0 < t \leq 15$ | 5 | 5 |
| $15 < t \leq 30$ | 15 | 20 |
| $30 < t \leq 45$ | 28 | 48 |
| $45 < t \leq 60$ | 42 | 90 |
| $60 < t \leq 75$ | 60 | 150 |
| $75 < t \leq 90$ | 22 | 172 |
| $90 < t \leq 105$ | 11 | 183 |
| $105 < t \leq 120$ | 7 | 190 |
| $120 < t \leq 135$ | 10 | 200 |



c) 63 minutes



Cumulative Frequency: You're Fired?

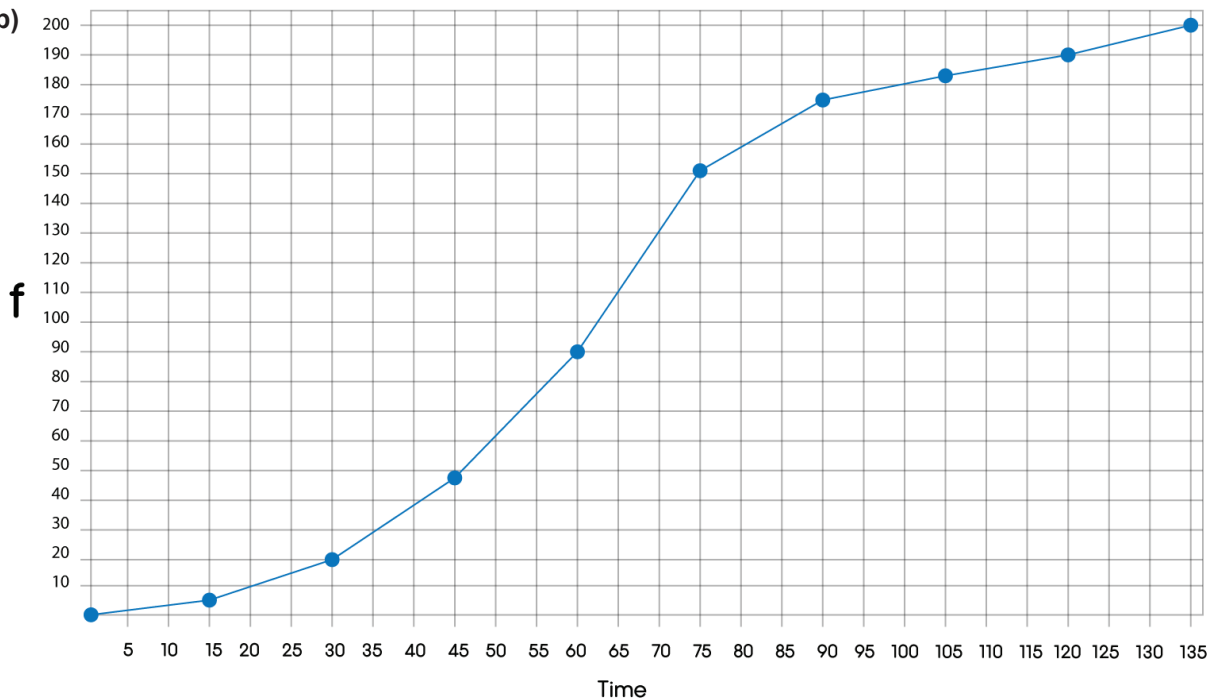
ANSWERS

Core

1) a)

| Length of stay (minutes) | Number of cars (frequency) | Cumulative frequency |
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| $120 < t \leq 135$ | 10 | 200 |

b)



c) 63 minutes

d) 28 minutes

e) 15%



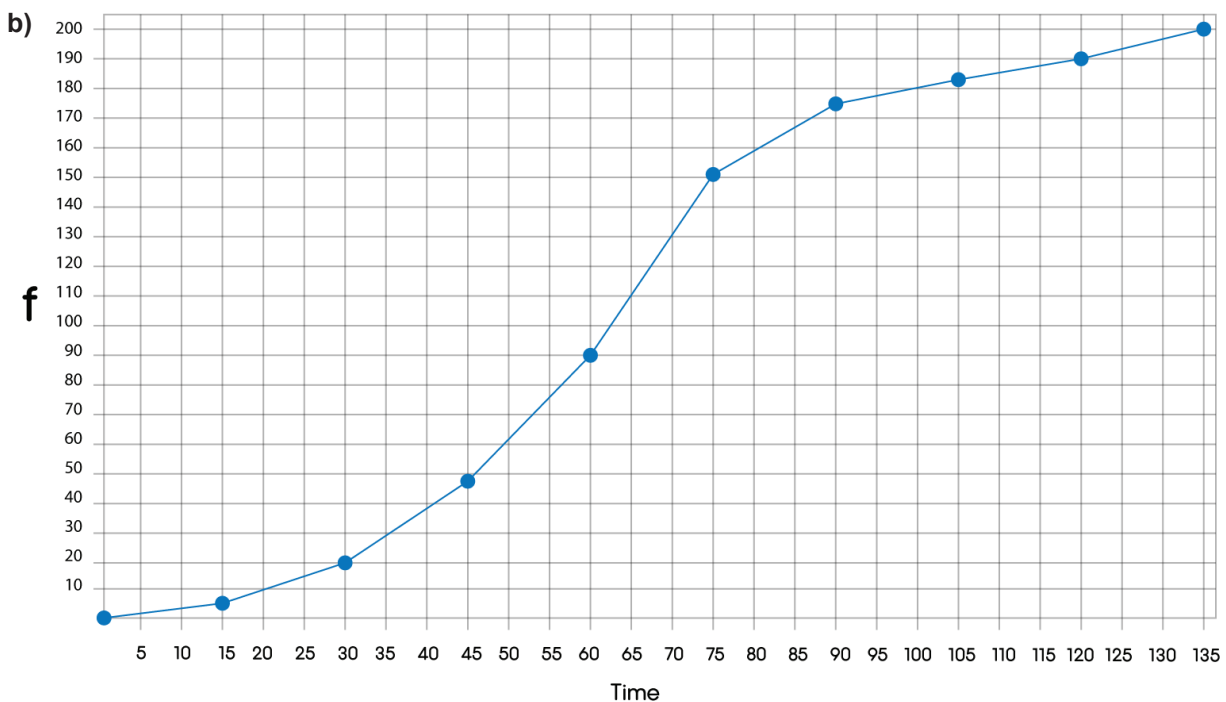
Cumulative Frequency: You're Fired?

ANSWERS

Advanced

1) a)

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c) 63 minutes

d) 28 minutes

e) 15%

f)

